

AMENDED CLAIMS

1. (Currently amended) A lamp comprising:

an optical module including (i) a plurality of LEDs including LEDs for emitting light of first, second, and third different colors, and (ii) a heat sink thermally coupled to the LEDs, the heat sink having an electrical conduit for transmitting conditioned electrical power to the LEDs; and

an electronics module ~~including an input electrical interface adapted to receive~~ receiving input electrical power and a lighting control signal, the electronics module including and an output coupler rigidly attaching to the optical module for delivering conditioned electrical power to the electrical conduit, the electronics module further including electrical conditioning circuitry for selectively electrically coupling the input electrical ~~interface~~ power to the output coupler based on the lighting control signal to selectively power to the LEDs of the first second and third colors to produce light of a color selected by the lighting control signal.

2. (Canceled)

3. (Original) The lamp as set forth in claim 1, further including:

a circuit board in thermal contact with the heat sink and on which the plurality of LEDs are arranged, the circuit board including electrical traces for electrically interconnecting the LEDs.

4. (Currently amended) The lamp as set forth in claim 1, wherein the ~~electrical interface~~ electronics module includes one of an Edison-type base and a GU-type base receiving the input electrical power.

5. (Canceled)

6. (Currently amended) The lamp as set forth in ~~claim 5~~ claim 1, wherein the ~~electronic controller~~ electrical conditioning circuitry includes one of:

- a DMX network protocol controller;
- a CAN network protocol controller; and
- a PDA network protocol controller.

7-8. (Canceled)

9. (Original) The lamp as set forth in claim 1, wherein the optical module further includes:

an optical system arranged to cooperate with the LEDs to produce a light beam having a selected beam spread.

10. (Original) The lamp as set forth in claim 9, wherein the optical system includes a plurality of lenses corresponding to the plurality of LEDs.

11. (Original) The lamp as set forth in claim 1, wherein the output coupler of the electronics module is adapted to thermally communicate with the heat sink of the optical module.

12-13. (Canceled)

14. (Currently amended) A light emitting apparatus comprising:

a heat sink having a first side, a second side opposite the first side, and a conduit connecting the first side and the second side, ~~wherein the second side is adapted to connect with any one of an associated plurality of electrical adapters each adapted to convert a selected electrical input power to a conditioned output electrical power; and~~

a plurality of light emitting diodes disposed at the first side of the heat sink and in thermal communication therewith to heat sink the light emitting diodes; and

an electronic module disposed at the second side of the heat sink and in thermal communication therewith to heat sink the

electronic module, the electronic module converting electrical input power into a conditioned electrical power, the light emitting diodes receiving the conditioned electrical power from the selected ~~adapter~~ electronic module via the conduit.

15. (Original) The light emitting apparatus as set forth in claim 14, further including:

a pc board on which the plurality of light emitting diodes are arranged, the pc board disposed at the first side of the heat sink and in thermal communication therewith.

16. (Original) The light emitting apparatus as set forth in claim 15, further including:

thermal tape bonding the pc board to the first side.

17. (Currently amended) The light emitting apparatus as set forth in claim 14, wherein the second side of the heat sink is adapted to detachably connect with any one of ~~the associated a~~ plurality of electrical ~~adapters~~ electronic modules.

18. (Currently amended) The light emitting apparatus as set forth in claim 14, wherein the heat sink ~~thermally communicates with the associated electrical adaptor connected at the second side to provide heat sinking for the adaptor~~ includes a radiating surface disposed between the first and second sides radiating heat away from the heat sink.

19. (Currently amended) A method for retro-fitting a lamp fixture configured to receive an MR- or PAR-type lamp in an electrical receptacle with an LED-based lamp, the method comprising:

selecting an LED-based lamp conforming at least to a diameter of the MR- or PAR-type lamp;

selecting a selected electronic module including a connector module ~~conforming~~ configured to mate with the electrical receptacle of the lamp fixture, the selected electronic module being selected from amongst a plurality of

electronics modules having different connectors and identical output couplers; and

mechanically joining the selected LED-based lamp and the selected ~~connector~~ electronic module to form an LED-based retro-fit unit by mating the output coupler with the LED-based lamp, the mechanical joining effectuating electrical connection therebetween.

20. (Currently amended) The retro-fitting method as set forth in claim 19, further including:

installing the LED-based retro-fit unit in the lamp fixture, the installing including ~~connecting~~ mating the connector of the selected electronic module ~~to~~ with the electrical receptacle of the lamp fixture.

21. (Currently amended) The retro-fitting method as set forth in claim 19, wherein the mechanical joining is a detachable joining. ~~includes.~~

~~detachably attaching the selected LED-based lamp and the selected connector module to form the LED-based retro-fit unit.~~

22. (Currently amended) A modular lamp system comprising:
an optics module having:

a plurality of LEDs arranged on a printed circuit board, and

a heat sink having an electrical conduit for conveying electrical power through the heat sink, the plurality of LEDs thermally communicating with the heat sink; and

an a plurality of electronics module modules, each module including: (i) an output coupler adapted to mate with the heat sink adapted to convey power to the plurality of LEDs via the electrical conduit of the heat sink, the electronics module having a first end adapted to connect with the heat sink and (ii) a selected an electrical power connector arranged on a second end for receiving electrical power, the electronics modules each having the same output coupler but different electrical power

connectors, each electronics module housing circuitry arranged within for adapting converting the received electrical power received at its electrical power connector into a common output power delivered to the output coupler to drive the LEDs.

23. (Currently amended) The modular lamp system as set forth in claim 22, wherein the optics module further includes:

a lens system comprising at least one lens arranged to receive light generated by the LEDs for modifying a characteristic of the light.

24. (Currently amended) The modular lamp system as set forth in claim 23, wherein the lens system further includes:

an adjustment for selectively adjusting a separation between the at least one lens and the plurality of LEDs.

25. (Currently amended) The modular lamp system as set forth in claim 22, wherein the optics module further includes:

a thermal tape disposed between the printed circuit board and the heat sink for providing thermal contact therebetween.

26. (Currently amended) The modular lamp system as set forth in claim 22, wherein the heat sink thermally communicates with ~~the~~ an installed one of the plurality of electronics modules ~~module~~ to heat sink the installed electronics module.

27. (New) The modular lamp system as set forth in claim 26, further including:

a thermally conductive disk inserted between the heat sink and the installed one of the plurality of electronics modules, the thermally conductive disk enhancing thermal communication therebetween.

28. (New) The modular lamp system as set forth in claim 22, wherein the output coupler of each of the plurality of electronics modules detachably mates with the heat sink, the output coupler being selected from a group consisting of: (i) a

snap fit, (ii) a twist lock, (iii) a spring-loaded connection, (iv) a connection secured using screws.